

[A VARIABLE FREQUENCY POWER SYSTEM AND METHOD OF USE]

Abstract

A variable frequency power system with a power source having a rotating output and a speed control to regulate rotational speed of the rotating output. A generator coupled to and driven by the rotating output of the power source, whereby the speed control of the power source directly controls output power frequency of the generator due to control of rotational frequency of the rotating output. A voltage regulator connected between the generator and the motor regulates output voltage from the generator to the electrical motor load. A system controller controls output power frequency of the generator. The system controller interfaces with the speed control of the power source and configured to monitor generator output and operational conditions of the electrical motor load. The system controller adjusts the speed control based on generator output and operational conditions of the electrical motor load.